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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/584,482

03/02/2007

Masatoshi Hagiwara

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EXAMINER

ZARA, JANE J

ART UNIT

PAPER NUMBER

1635

MAIL DATE

DELIVERY MODE

07/11/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/584,482	<b>Applicant(s)</b> HAGIWARA ET AL.	
	<b>Examiner</b> Jane Zara	<b>Art Unit</b> 1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 24-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 24-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This Office action is in response to the communication filed 4-21-08.

Claims 24-31 are pending in the instant application.

#### ***Response to Arguments and Amendments***

Applicant's arguments with respect to claims 24-31 have been considered but are moot in view of the new ground(s) of rejection set forth below.

#### **Withdrawn Rejections**

Any rejections not repeated in this Office action are hereby withdrawn.

#### **New Rejections**

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 24-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Player et al (WO 2004/096795) and Nakagawa et al (USPN 5,707,987), the combination in view of Schubert et al (US 2006/0094081).

The claims are drawn to a method of treating a viral infection in a subject comprising the administration of an aniline derivative represented by formula I or II in claim 24, pharmaceutically acceptable salts and hydrates thereof, and methods to inhibit the activity of viral kinases, including those required for the viruses listed in claims 27-31.

Player et al (WO 2004/096795) teach the aniline derivatives represented by the formulae listed in claim 24, pharmaceutically acceptable salts and hydrates thereof, and their ability to inhibit c-FMS kinase (see the text and structures I-III in the abstract; pages 3-17, Table I, pages 33-41, claims 1-18).

Nakagawa et al (USPN 5,707,987) teach aniline derivatives represented by the formulae listed in claim 24, pharmaceutically acceptable salts or hydrates thereof (see esp. the abstract, col. 1-27, 189-190, claims 1-27).

The primary references of Player and Nakagawa do not teach the role of c-FMS kinase in viral infections.

Schubert et al (US 2006/0094081) teach the role of the c-FMS kinase in viral infections, and the use of inhibitors of this kinase in treating viral infections (see esp. paragraphs 0011 and 0012).

It would have been obvious to use the well known aniline derivatives taught previously by Player and Nakagawa to inhibit c-FMS kinase because Player teaches the inhibition of c-FMS kinase using the instantly claimed aniline compounds. One of ordinary skill in the art would have been motivated to inhibit c-FMS kinase as a treatment for viral infections because Schubert teaches the role of c-FMS kinase in viral infections, and Schubert teaches approaches to design inhibitors of this kinase for anti-viral approaches. One of ordinary skill in the art would have reasonably expected that inhibiting c-FMS kinase using these well known inhibitors taught previously by Player and Nakagawa would inhibit viral spread, including HIV viral infections, because Schubert teaches the motivation to treat virus infection using inhibitors of c-FMS kinase. One of ordinary skill in the art would have been motivated to use the inhibitors instantly claimed for inhibiting other viruses, because Schubert teaches a structural correlation between the substrate binding domain of the c-FMS kinase and other kinases, and the art was beginning to recognize the importance of inhibiting kinases as a viable strategy for inhibiting the spread of viral infections. Furthermore, the testing of these well known inhibitors taught previously by Player and Nakagawa for their ability to inhibit other viruses would have involved routine experimentation.

For these reasons, the instant invention would have been obvious to one of ordinary skill in the art at the time the invention was made.

### *Conclusion*

Certain papers related to this application may be submitted to Art Unit 1635 by facsimile transmission. The faxing of such papers must conform with the notices

published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December 28, 1993) (see 37 C.F.R. ' 1.6(d)). The official fax telephone number for the Group is 571-273-8300. NOTE: If Applicant does submit a paper by fax, the original signed copy should be retained by applicant or applicant's representative. NO DUPLICATE COPIES SHOULD BE SUBMITTED so as to avoid the processing of duplicate papers in the Office.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jane Zara whose telephone number is (571) 272-0765. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Douglas Schultz, can be reached on (571) 272-0763. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Jane Zara**  
**7-8-08**

/Jane Zara/

Primary Examiner, Art Unit 1635

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